

Claims

1. Circuit for driving a semiconductor laser, in particular a vertical cavity surface-emitting laser, comprising a differential amplifier for driving the semiconductor laser directly, wherein a semiconductor laser to be connected to the circuit is differentially driven by means of the differential amplifier, a first output of the differential amplifier being direct-current-coupled to a first terminal of the semiconductor laser and a second output of the differential amplifier being alternating-current-coupled to a second terminal of the semiconductor laser.
2. Circuit according to Claim 1, wherein the second output of the differential amplifier is connected to the second terminal of the semiconductor laser by means of a capacitor, a coil and a resistor being connected in series to ground between the capacitor and the second terminal.
3. Circuit according to Claim 1, wherein variable resistors are connected in parallel with the resistors of the differential amplifier.
4. Circuit according to Claim 1, wherein a series connection of a further coil, two diodes and a further resistor connected to ground is provided between the second output of the differential amplifier and the capacitor.

5. Circuit according to Claim 1, wherein digital-to-analogue converters are provided at least for the inputs of the differential amplifier and of a control input of the constant-current source.
6. Circuit according to Claim 5, wherein the circuit comprises a microprocessor for executing a program for driving the semiconductor laser and/or setting the circuit.
7. Circuit according to Claim 1, wherein the circuit comprises the semiconductor laser, which is, in particular, a semiconductor diode, the anode of the laser diode being the first terminal of the semiconductor laser and the cathode of the laser diode being the second terminal of the semiconductor laser.
8. Circuit according to Claim 7, wherein the circuit and the semiconductor laser are disposed on spatially separated integrated circuits, impedance-matched lines of the circuit being provided for connecting the semiconductor laser to the circuit.
9. Method of operating a circuit according to Claim 1, wherein the circuit is matched to the semiconductor laser used under the control of specified events,
 - wherein characteristic-curve data of the semiconductor laser are first measured by means of the circuit,
 - at least one start-up value of the circuit is determined and set on the basis of the measured data and
 - circuit operating values for operating the circuit comprising said semiconductor laser are determined and set by varying the start-up

value at least as a function of a desired characteristic quantity of the semiconductor laser.

10. Method according to Claim 8, wherein at least an initial or repeat start-up, a replacement of the semiconductor laser, a specified number of operating hours or an occurrence of a fault is an event in the context of the specified events.